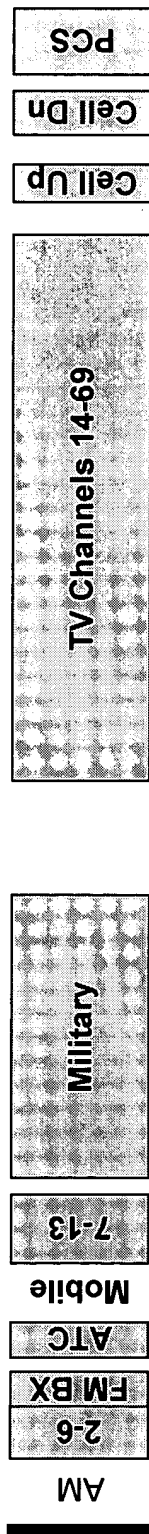
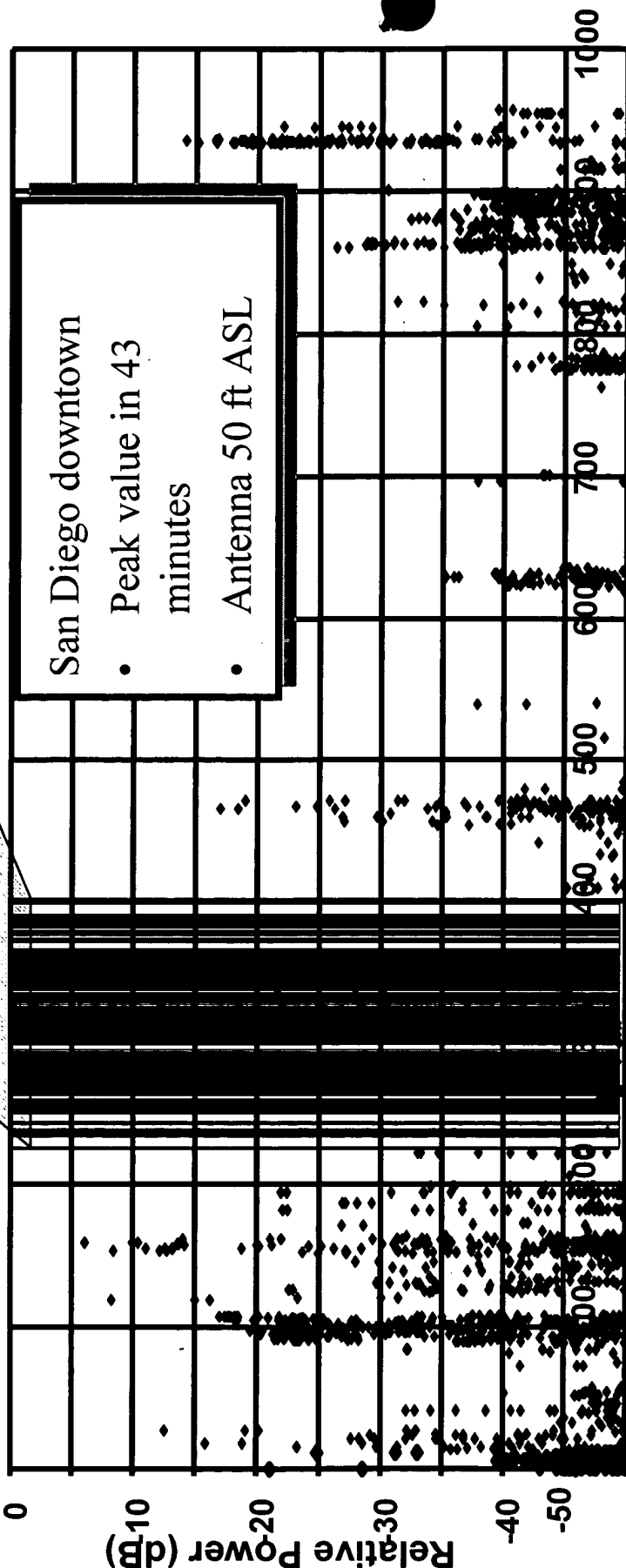


Allocations (USA)



San Diego Area
(225 to 400 MHz)

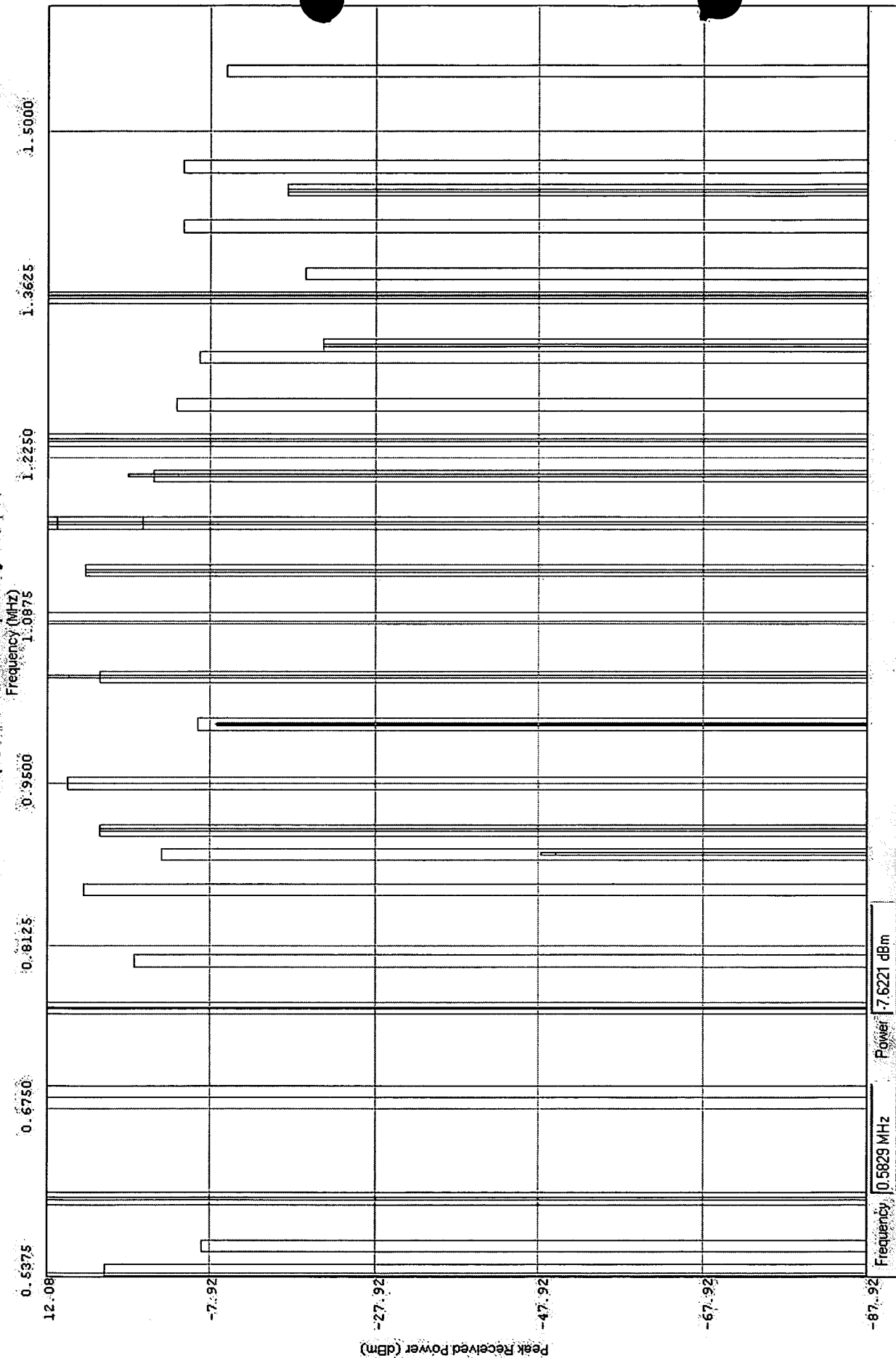
Actual Activity



Radio Frequency (MHz)

Fig. 1

Spectrum Occupancy Chart

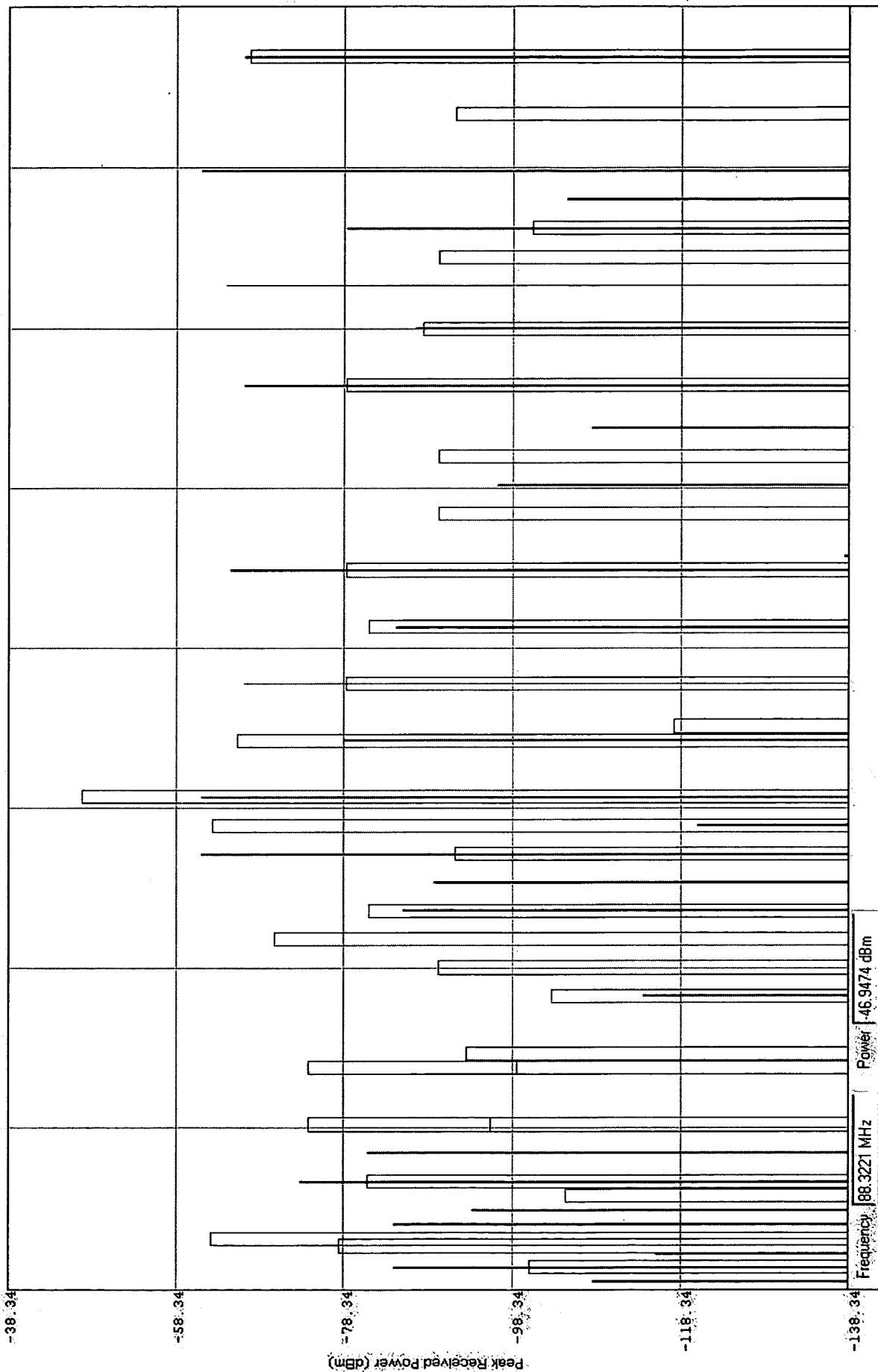


Parameters			
STC:CA	MCT:1 m	FRQ:K535-K1605	
LOC:AVIS	RAD:0 km	SRD:398 km	
LRT:324322N	LON:1171010W	DTE:20000131	

Fig. 2

Spectrum Occupancy Chart

Frequency (MHz) 88.0000 90.2500 92.5000 94.7500 97.0000 99.2500 101.5000 103.7500 106.0000

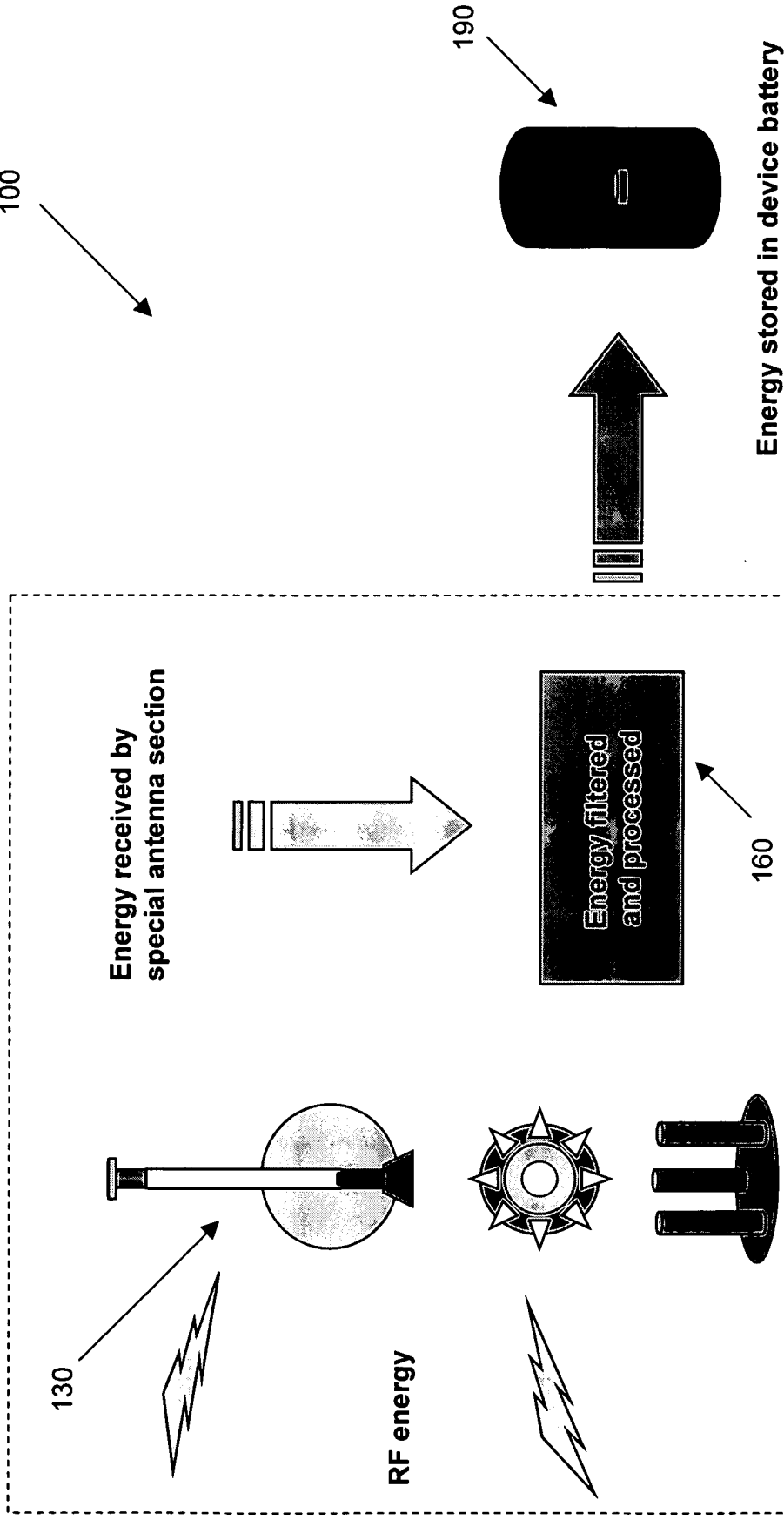


Parameters

STC:CA	HGT:1 m	FRQ:M88-M106
LOC:AVIS	ERD:0 km	SRD:398 km
LNT:324322N	LON:1171010W	DTR:20000131

Fig. 3

ERS System Concept



Energy Harvesting Subsystem (EHS)	Energy Conversion Subsystem (ECS)	Energy Storage Subsystem (ESS)
ENERGY RECLAMATION SYSTEM (ERS)		

Fig. 4

Antenna Design

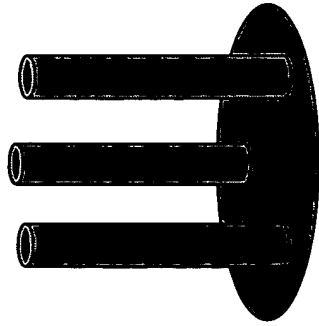


Fig. 5A

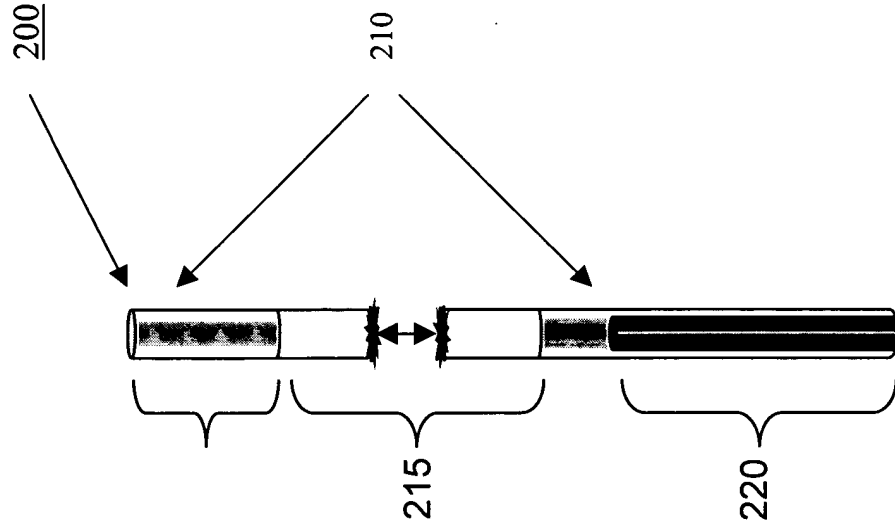


Fig. 5B

Alternate Antenna Design

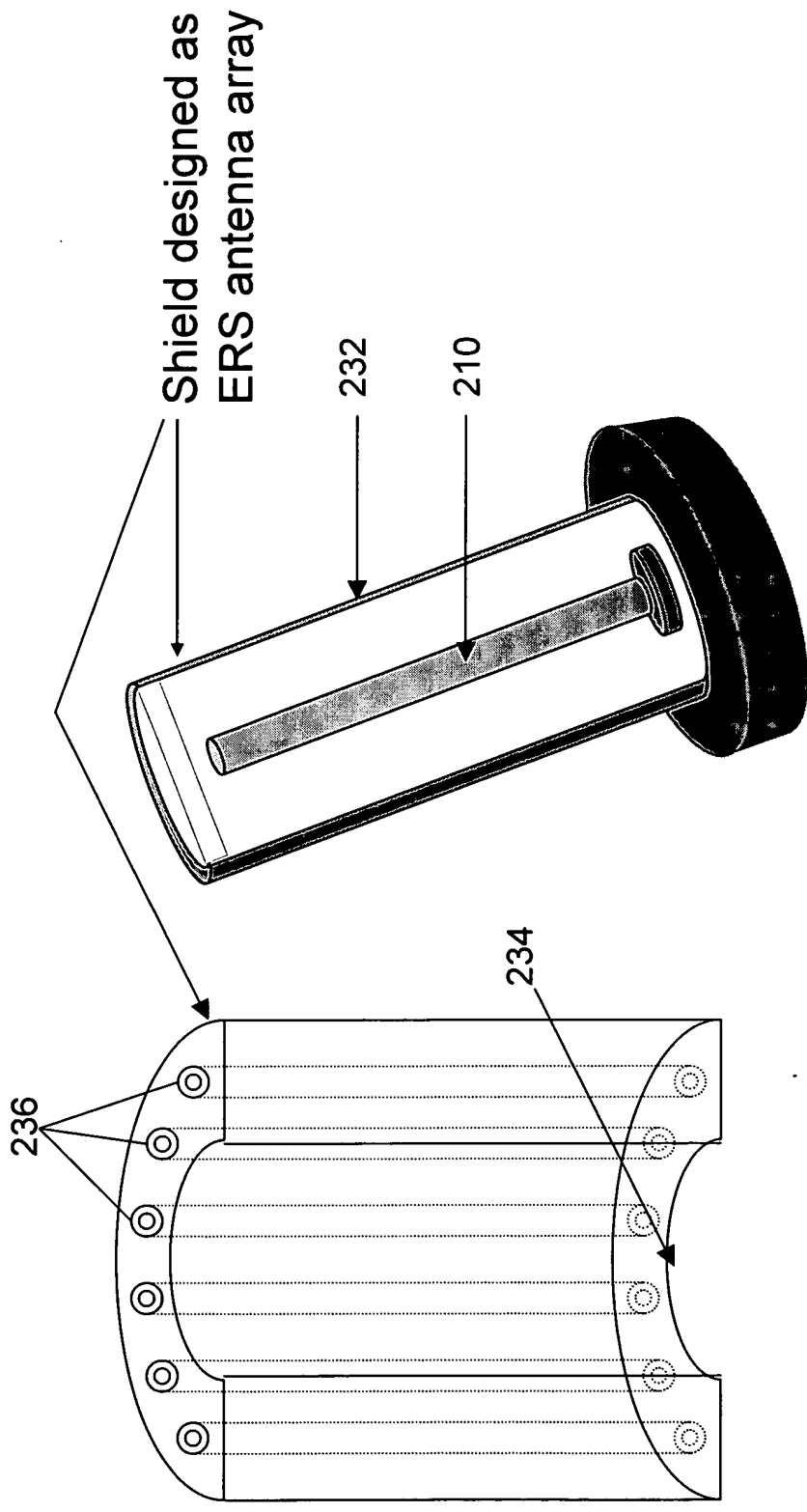


Fig. 6

Energy Harvesting for Wireless Devices

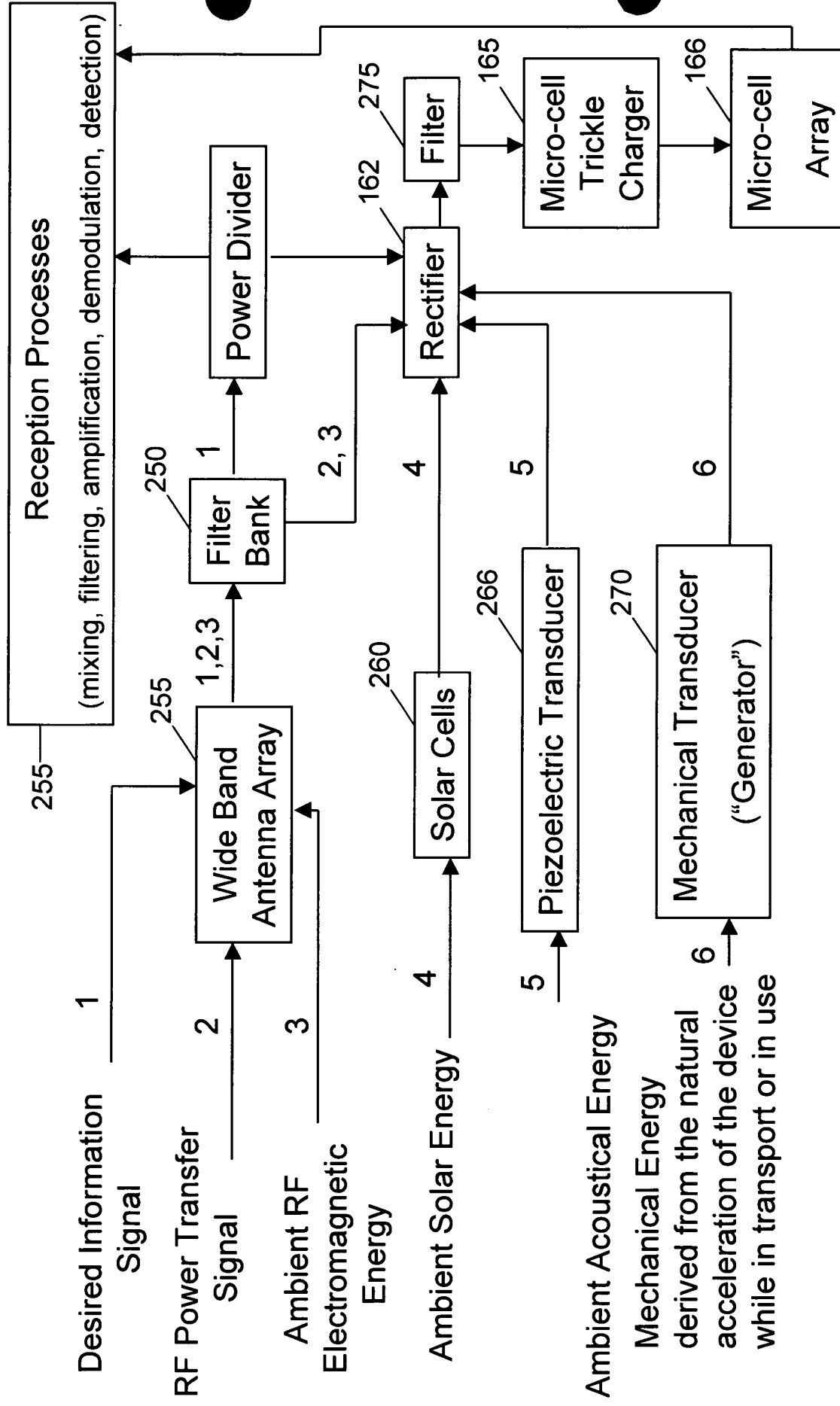


Fig. 7

RF to DC Power Conversion Design

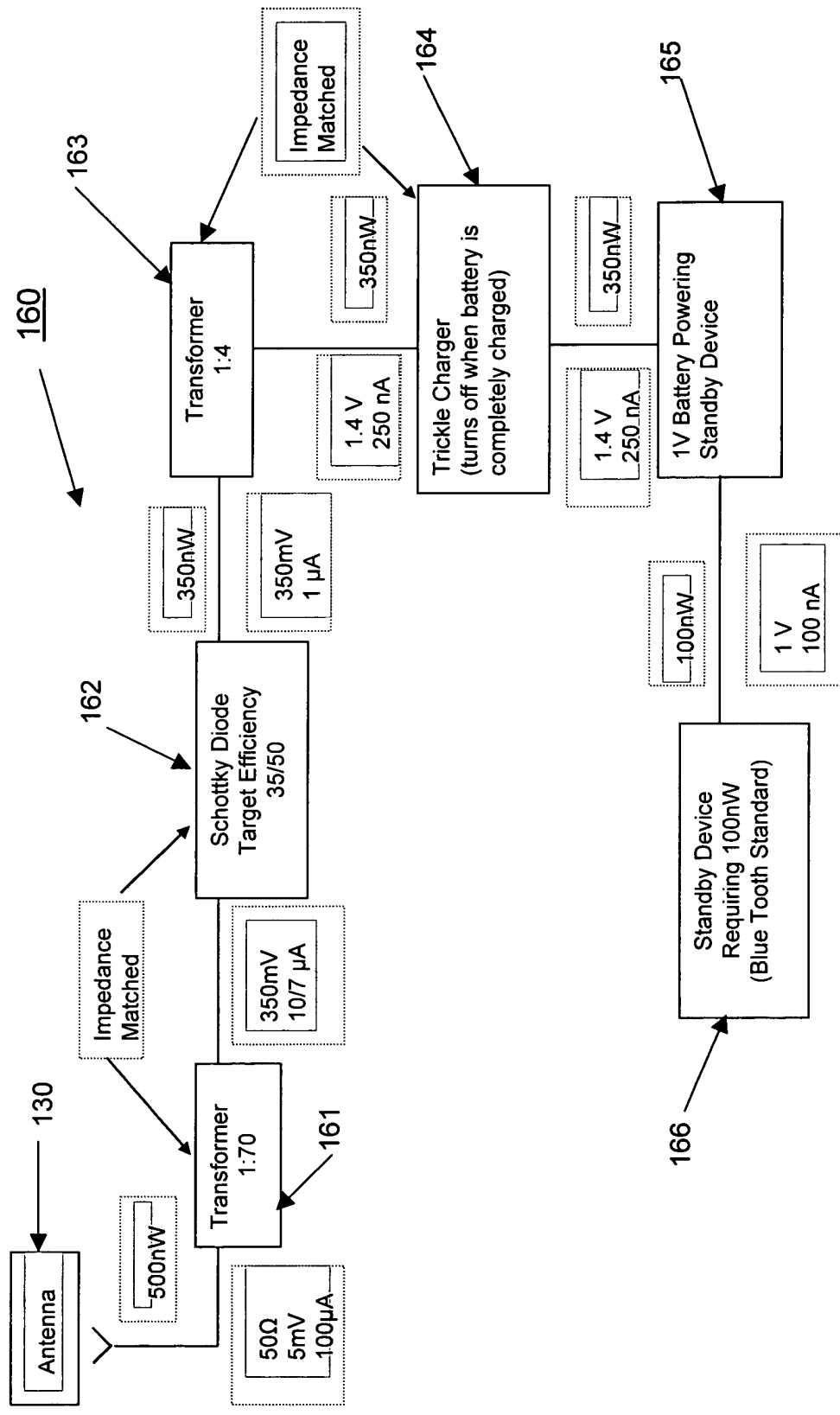


Fig. 8

RF to DC Power Conversion/Trickle Charge/Power Storage Design Concept

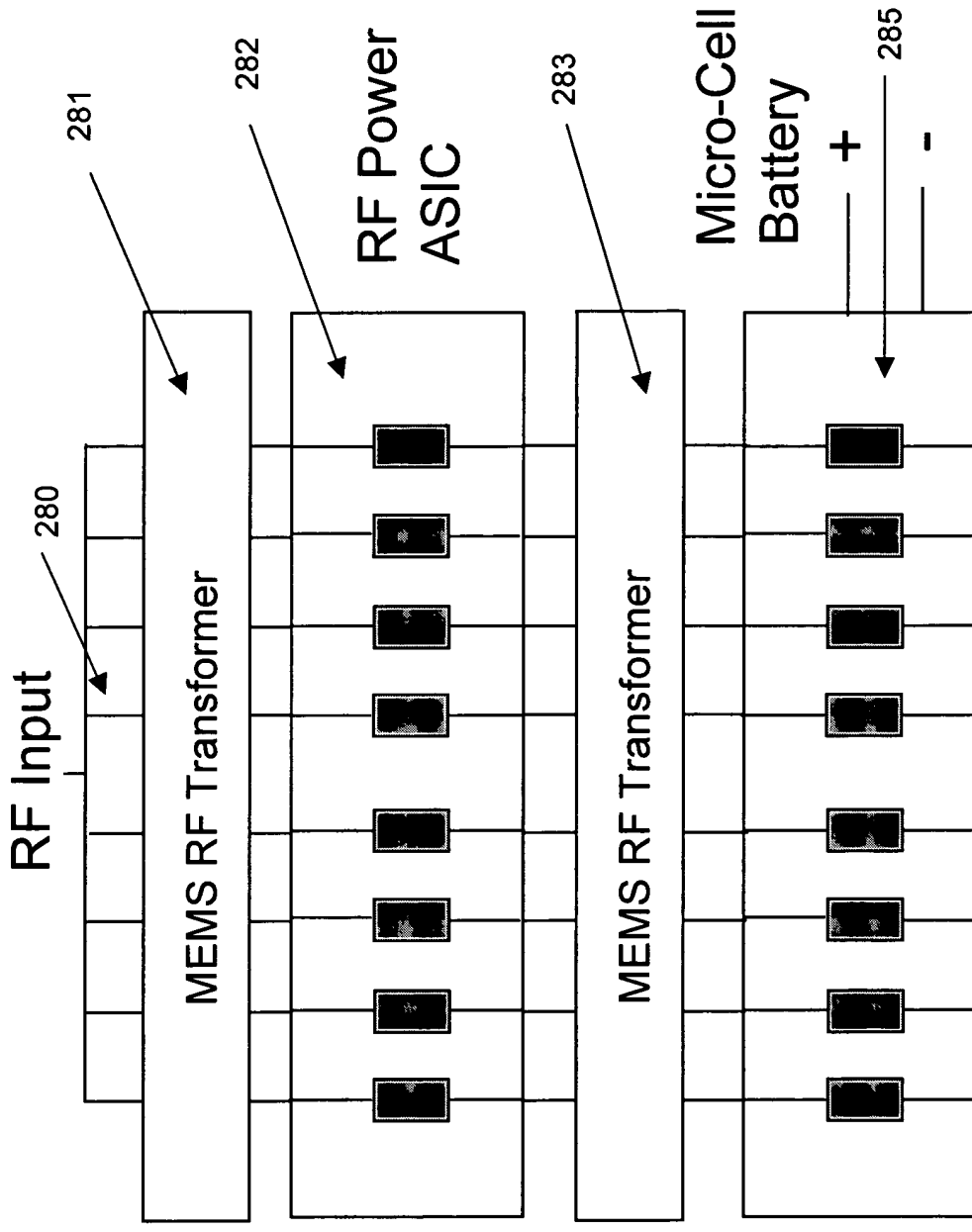


Fig. 9

Battery Micro-cell Charging (Trickle Charge)

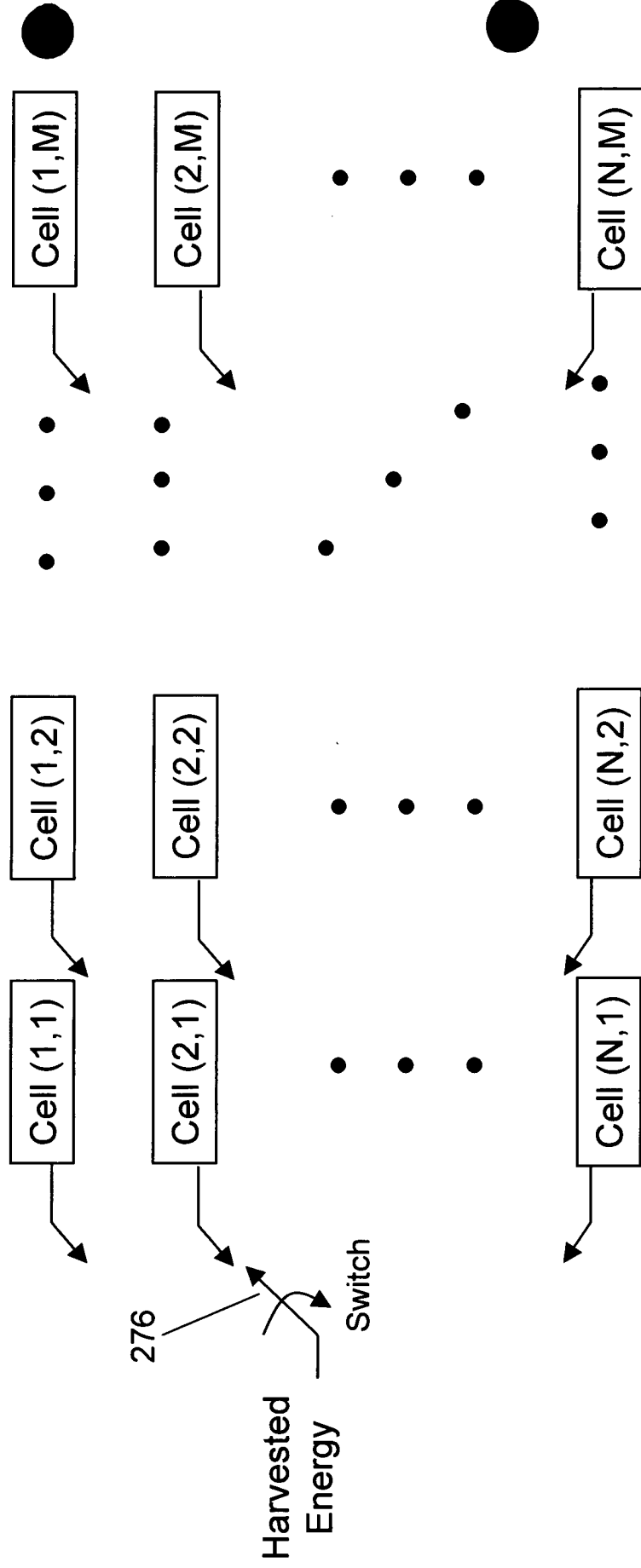
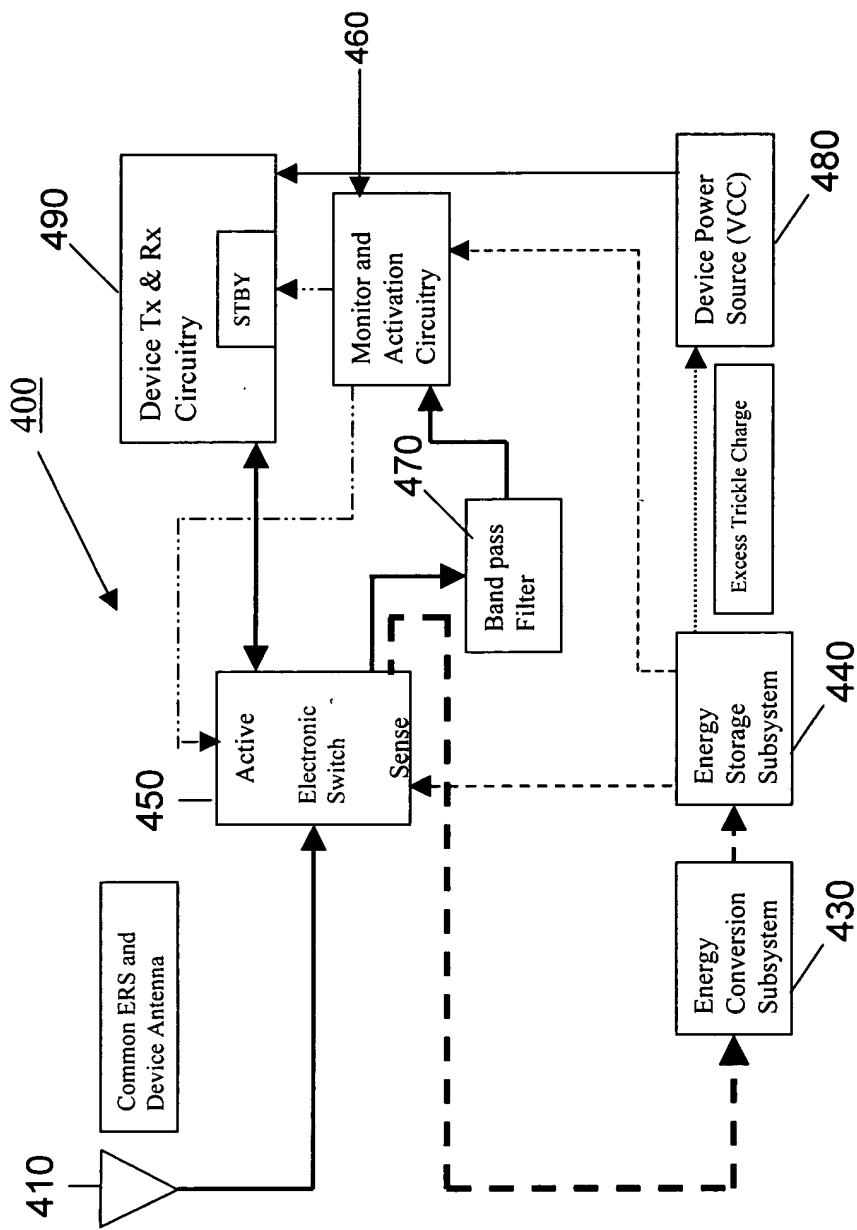


Fig. 10



Common Antenna used for Simultaneous Energy Harvesting, Sense and Active Mode

Fig. 12

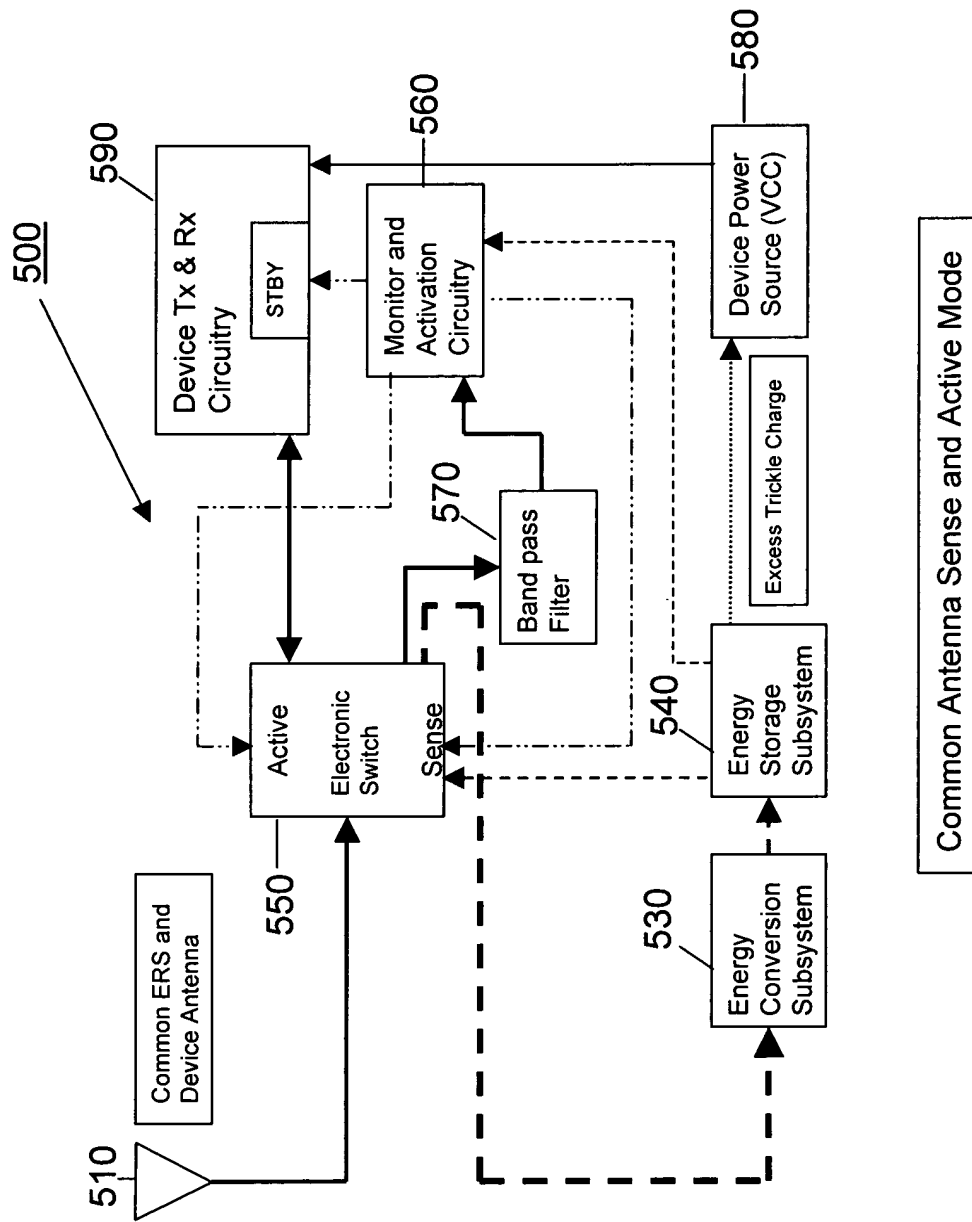


Fig. 13

Common Antenna Sense and Active Mode